

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

- 1 1. (Currently amended) A method for treating a person suffering from head
2 trauma associated with elevated intracranial pressures, the method comprising:
3 delivering a positive pressure breath to the person for at least about 250
4 milliseconds;
5 actively extracting respiratory gases from the person's airway following the
6 positive pressure breath to create an intrathoracic vacuum to lower pressures in the venous blood
7 vessels that transport blood out of the head to thereby reduce intracranial pressures, wherein the
8 intrathoracic vacuum is less than about -50 mmHg; and
9 repeating the steps of delivering positive pressure breaths and extracting
10 respiratory gases.
- 1 2. (Original) A method as in claim 1, wherein the positive pressure breath is
2 delivered using a mechanical ventilator.
- 1 3. (Original) A method as in claim 1, wherein the respiratory gases are
2 extracted with a constant extraction, varied over time, or a pulsed extraction.
- 1 4. (Original) A method as in claim 1, wherein the breath is delivered for a
2 time in the range for about 250 milliseconds to about 2 seconds.
- 1 5. (Original) A method as in claim 1, wherein the breath is delivered at a
2 rate in the range from about 0.1 liters per seconds to about 5 liters per second.
- 1 6. (Original) A method as in claim 1, wherein the vacuum is maintained at a
2 pressure in the level from about 0 mmHg to about -50 mmHg.
- 1 7. (Original) A method as in claim 6, wherein the vacuum is maintained
2 with negative flow or without flow.

1 8. (Original) A method as in claim 1, wherein the time the positive pressure
2 breath is supplied relative to the time in which respiratory gases are extracted is in the range
3 from about 0.5 to about 0.1.

1 9. (Original) A method as in claim 1, wherein the respiratory gases are
2 extracted using equipment selected from a group consisting of a mechanical ventilator, a phrenic
3 nerve stimulator, an extrathoracic vest, a ventilator bag, and an iron lung cuirass device.

1 10. (Original) A method as in claim 1, further comprising coupling a
2 threshold valve to the person's airway, wherein the threshold valve is configured to open with
3 the person's negative intrathoracic pressure exceeds about -5 cmH₂O.

1 11. (Original) A method as in claim 1, wherein the respiratory gases are
2 lowered to an intrathoracic pressure of about -5 mmHg to about -10 mmHg and then kept
3 generally constant until the next positive pressure breath.

1 12. (Original) A method as in claim 1, wherein the positive breath is slowly
2 delivered and the respiratory gases are rapidly lowered to an intrathoracic pressure of about -10
3 mmHg to about -20 mmHg and then gradually reduced towards about 0 mmHg.

1 13. (Original) A method as in claim 1, wherein the respiratory gases are
2 slowly lowered to a pressure of about -20 mm Hg.

1 14. (Currently amended) A method for treating a person suffering from head
2 trauma associated with elevated intracranial pressures, the method comprising:

3 coupling a mechanical ventilator to a person;

4 actively delivering a positive pressure breath to the person using the ventilator for
5 at least about 250 milliseconds;

6 extracting respiratory gases from the person's airway following the positive
7 pressure breath using the mechanical ventilator to create an intrathoracic vacuum to lower
8 pressures in the venous blood vessels that transport blood out of the head to thereby reduce
9 intracranial pressures, wherein the intrathoracic vacuum is less than about -50 mmHg; and

10 repeating the steps of delivering positive pressure breaths and extracting
11 respiratory gases.

1 15. (Original) A method as in claim 14, wherein the respiratory gases are
2 extracted with a constant extraction, varied over time, or a pulsed extraction.

1 16. (Original) A method as in claim 14, wherein the breath is delivered for a
2 time in the range for about 250 milliseconds to about 2 seconds.

1 17. (Original) A method as in claim 14, wherein the breath is delivered at a
2 rate in the range from about 0.1 liters per seconds to about 5 liters per second.

1 18. (Original) A method as in claim 14, wherein the vacuum is maintained at
2 a pressure in the level from about 0 mmHg to about -50 mmHg.

1 19. (Original) A method as in claim 18, wherein the vacuum is maintained
2 with negative flow or without flow.

1 20. (Original) A method as in claim 14, wherein the time the positive pressure
2 breath is supplied relative to the time in which respiratory gases are extracted is in the range
3 from about 0.5 to about 0.1.

1 21. (Original) A method as in claim 14, wherein the respiratory gases are
2 extracted using equipment selected from a group consisting of a mechanical ventilator, a phrenic
3 nerve stimulator, a ventilator bag, and an iron lung cuirass device.

1 22. (Original) A method as in claim 14, further comprising coupling a
2 threshold valve to the person's airway, wherein the threshold valve is configured to open with
3 the person's negative intrathoracic pressure exceeds about -5 cmH₂O.

1 23. (Original) A method as in claim 14, A method as in claim 1, wherein the
2 respiratory gases are lowered to a pressure of about -10 mmHg and then kept generally constant
3 until the next positive pressure breath.

1 24. (Original) A method as in claim 14, A method as in claim 1, wherein the
2 positive breath is slowly delivered and the respiratory gases are rapidly lowered to a pressure of
3 about -20 mmHg and then gradually reduced towards about 0 mmHg.